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OCTODICERAS JULIANUM BRID. VAR. OHIOENSE, NEW VARIETY¹

W. H. EMIG

Octodicerias Julianum Brid., a water moss of *Fontinalis*-like habit, is quite common attached to submerged boulders and rocks, in the rapids of Washita River where the river cuts through the Arbuckle Mountains of Oklahoma. Only a few plants of *Octodicerias*, much branched and four to six inches long, were found in the clear calcareous streams of this region. The water of the Washita River is clear for about two months during the late summer, but during the remainder of the year the water is muddy, more especially since the recent clearing of the local forests with its accompanying erosion of the exposed soil. During the next few years this change in the turbidity of the river water may have a decided influence on the continued growth and habit of these plants. The moss stems, much branched and usually about two inches in length, occur in small compact clusters at the base of which the rhizoids are flattened into small discs that serve as holdfasts. The dark green, flexible, and submerged sprays of mosses appear from a distance like growths of the alga *Cladophora*. A minute examination of the moss soon reveals its identity.

Specimens of this moss from Oklahoma were compared with a number of specimens, which had been determined as *Octodicerias Julianum* Brid., in the herbarium of the Carnegie Museum at Pittsburgh. In this collection there was one specimen—collected by Prof. L. S. Hopkins on August 20, 1909, in Portage County, Ohio—which, although sterile, was in certain respects different from the species. The more apparent differences of the new variety and the species are illustrated in figures 1, 2, and 3 of Plate XXVI. In the following table the several points of variation between the species and the new variety are indicated.

<i>Octodicerias</i>	<i>Julianum</i> Brid.	var. <i>Ohioense</i>
Length of leaf.....	3.85–4.05 mm.	4.85–5.05 mm.
Width of leaf at widest part.....	.32 mm.	.52 mm.
Number of cells across widest part of leaf		
	20–24	30–36
Width of leaf above vaginant lamina	.23 mm.	.39 mm.
Width of costa.....	.02 mm.	.02 mm.
Diameter of average cell near the center of the leaf between margin and costa, rounded-hexagonal.....	.012–.02 mm.	.016–.024 mm.
Cells at base of leaf near midrib, rectangular.....	.01 × .02 mm.	.016 × .03–.04 mm.
Length of vaginant lamina.....	1.35 mm.	1.80 mm.
Costa ends below apex.....	.16 mm.	.16 mm.
Along the midrib—Leaf cells are uniformly rounded hexagonal		One or more rows of elongated rectangular cells.
At margin.....	Cells uniform with no indication of a margin	Several rows of small cells that give the appearance of an indistinct margin.

¹ Contribution No. 2, Botanical Department of the University of Pittsburgh.

The moss described above as a new variety is not given the rank of new species since it was not in fruiting condition. In the published illustrations and descriptions of *Octodicerias* there were found certain details at variance with the characteristics of the actual specimens. A correction of these details are here considered a noteworthy addition and are illustrated in figures 4, 5, and 6 of Plate XXVI. There is also considerable confusion in regards to the true relationship of *Octodicerias Julianum* Brid., with the closely related species of *Fissidens* in which genus *Octodicerias* is often placed by certain bryologists. *Octodicerias Julianum* Brid. as it occurs in Oklahoma, is found submerged in running water throughout the year. In this respect it differs in habit from the species of *Fissidens*, which are found floating in quiet water, in moist places, or on surfaces that are dripping wet. Since *Fissidens Hallianum* Sull. and Lesq. is most frequently classed with *Octodicerias* under the synonym *Conomitrium* or as a subgenus of *Fissidens*, the differences between these two species will be given in the table that follows. These points of variance apply equally as well to a comparison of *Octodicerias* with the genus *Fissidens* as a whole.

<i>Octodicerias Julianum</i> Brid.....	<i>Fissidens Hallianum</i> Sull. and Lesq.
Habitat.....submerged aquatic	floating or in moist places
Seta of capsule...same length or shorter than capsule	much longer than the capsule
Calyptra.....mitriform	cucullate
Dehiscence of operculum.....equatorial	above center of capsule
Peristome.....16 truncate teeth	16 subulate-lanceolate teeth

Octodicerias (okto—eight, dis keras—two horned, referring to the sixteen teeth) with a mitriform calyptra, a reduced peristome, and the equatorial dehiscence of the operculum should rank as a genus distinct from *Fissidens* in which genus the species have a cucullate calyptra, an operculum that dehisces above the center of the capsule, and a peristome of more or less perfect teeth.

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EXPLANATION OF PLATE XXVI

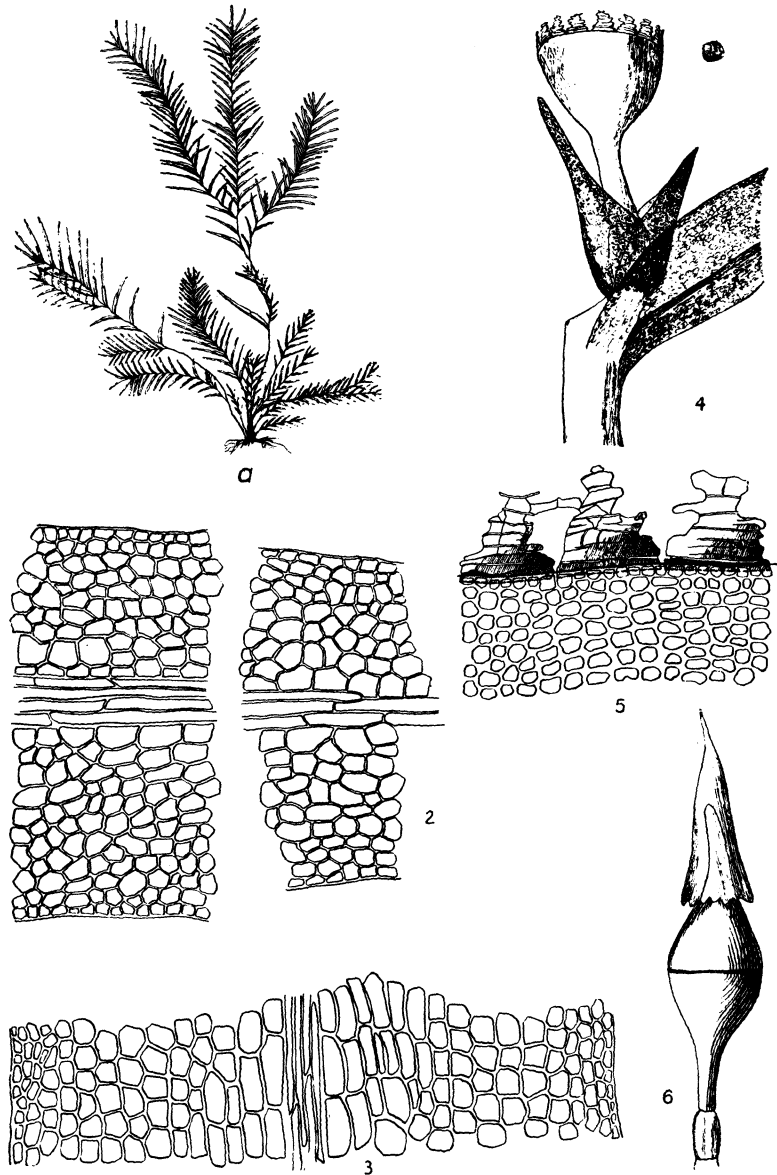
- a. *Octodicerias Julianum* Brid., entire plant, $\times 1$.
1. " " " portion of leaf above vaginant lamina, $\times 200$.
2. " " " portion of leaf just below apex, $\times 200$.
3. " " " var. *Ohioense* Emig, portion of leaf above vaginant lamina, $\times 200$.
4. " " " capsule and spore, $\times 50$.
5. " " " peristome, $\times 200$.
6. " " " capsule and calyptra, $\times 40$.

A COLLECTION OF MOSSES FROM NORTH CAROLINA

A. LEROY ANDREWS

As supplementary to the list of hepatics published several years ago,¹ the following list of mosses may be of interest. In this case I have not taken the

¹ The BRYOLOGIST, 17: 58ff 1914.



Octodiceras Julianum Brid., and var. *Ohioense* Emig